

INTRODUCTION

New geochemical data from re-analysis of archived stream sediment samples have been assessed using weighted sums modeling and catchment basin analysis as described in the methodology report that accompanies this map (Mackie et al., 2015).

geology mapped within each catchment, while the other uses residuals calculated from regression against selected principal components. Weighted sums models (WSM) have been generated using the processed data.

SAMPLING AND ANALYSIS PROGRAMS

Stream sediment and water samples from the Whitehorse Area (NTS 105D) were collected at a reconnaissance scale in 1985 as part of the Canada-Yukon Mineral Development Agreement (Geological Survey of Canada, 1986).

Exploratory data analysis using both raw element data and principal components indicate that lithological variation and secondary scavenging influence the distribution of certain commodity and pathfinder elements.

MINERAL OCCURRENCES

A variety of types of base and precious-metal mineralization has been identified in the Whitehorse Area as listed in Table 1 (Yukon MINFILE, 2015).

Regression analysis of selected metals against the relevant principal component(s) effectively filters the scavenging and lithological controls while preserving responses related to known occurrences.

WEIGHTED SUMS MODELING

As described in the methodology report (Mackie et al., 2015), two approaches have been used to subdue the influence of background lithological variation and secondary absorption on the composition of stream sediments.

The effectiveness of historical sampling coverage has been assessed empirically using graphs of WSMS plotted against catchment surface area to determine the ideal maximum catchment size (14 km²).

Table 1: List of Mineral Occurrences for NTS map sheet 105D (Yukon MINFILE, 2015)

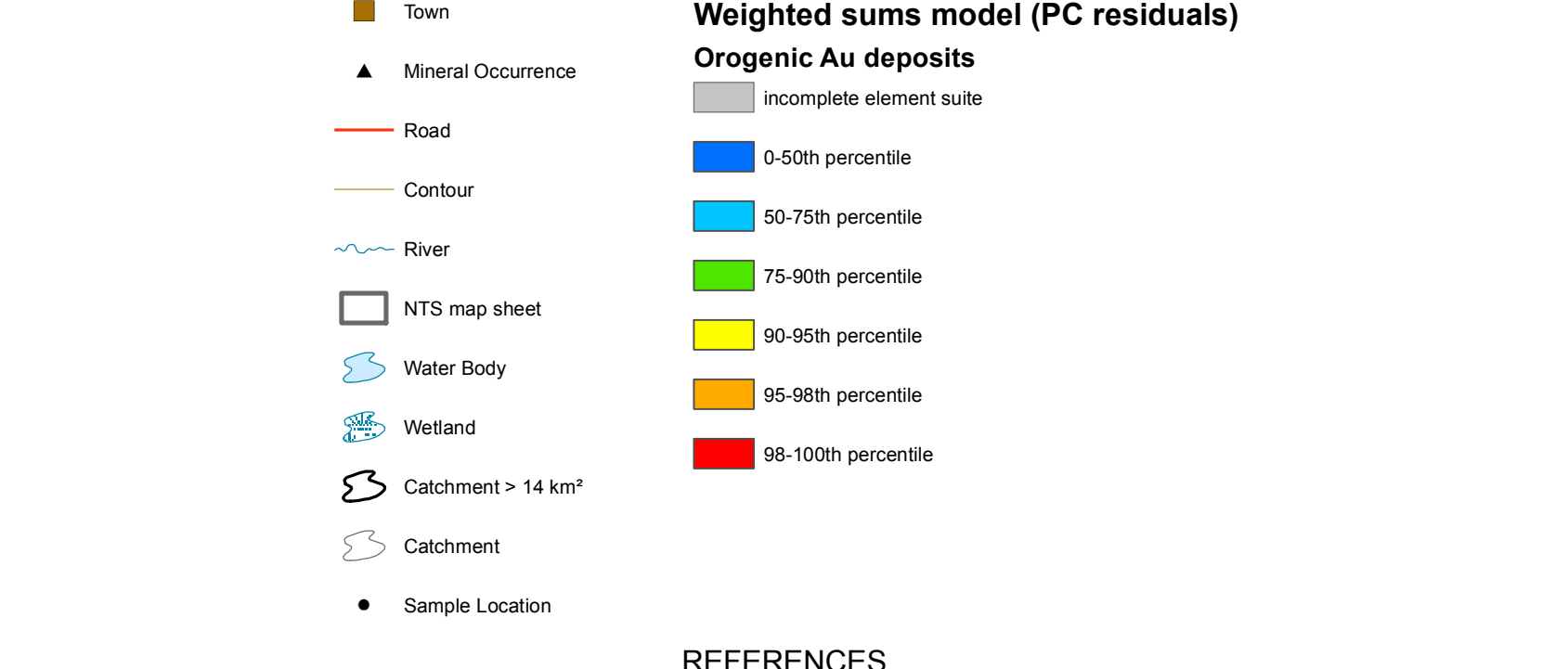
Table with columns: Number, Name, Type, Status, Commodity. Lists various mineral occurrences like Silver, Gold, Copper, and their respective deposit types and statuses.

Table 2: Importance rankings for weighted sums models using residuals on principal components.

Table with columns: Target Deposit Type, Other Deposit Types, and elements Mn, Fe, Co, Ni, Cu, Mo, Zn, Pb, Ag, Au, As, Ba, Cd, Sn, Sb, Se, Te, Hg, Tl, Bi, W. Shows numerical rankings for various elements across different deposit types.

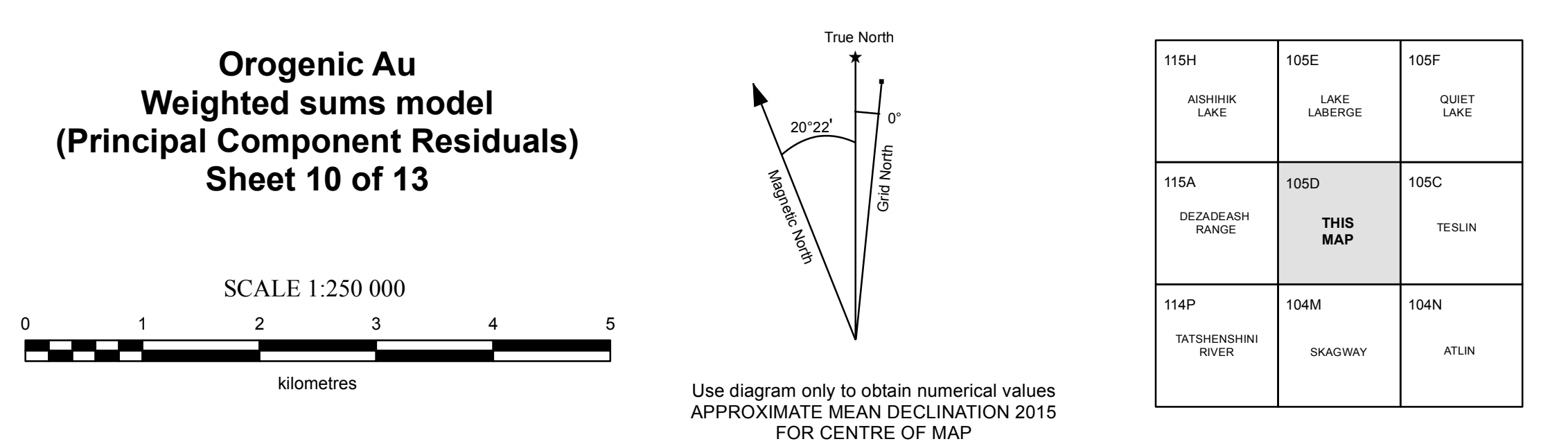
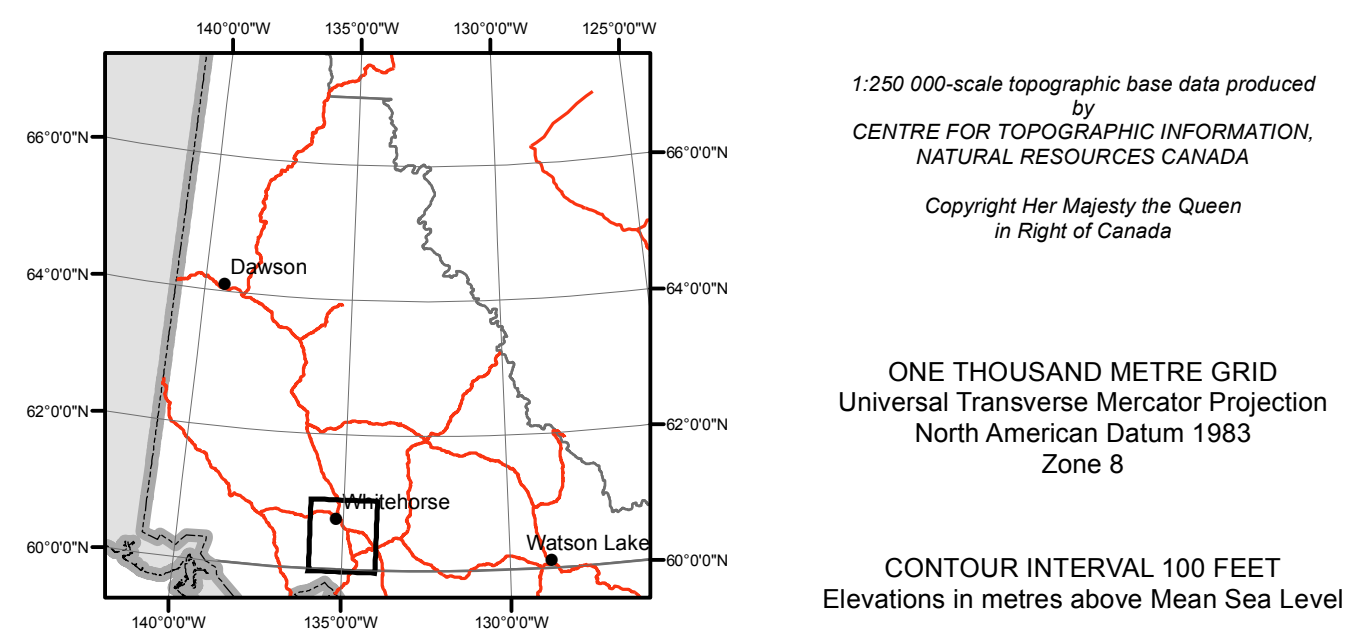
*Polymetallic Ag-Pb-Zn type includes vein and mantle styles; SEDEX = sedimentary exhalative Pb-Zn-(Ag); VMS = volcanically-hosted/associated massive sulphide deposits

*Raw data following a log10 transformation



REFERENCES

Geological Survey of Canada, 1986. Regional Stream Sediment and Water Geochemical Reconnaissance Data, Yukon (105D). Geological Survey of Canada, Open File 1218. Jackaman, W., 2015. Regional Stream Sediment Geochemical Data, Whitehorse area, southern Yukon (NTS 105D). Yukon Geological Survey, Open File 2015-12.



Grid table with columns: 115H, 105E, 105F; 115A, 105D, 105C; 114P, 104M, 104N. Includes a declination diagram showing a 20'22" difference between True North and Grid North.

A digital PDF (Portable Document File) file of this map may be downloaded free of charge from the Yukon Geological Survey website: http://www.geology.gov.yk.ca.